REMARKS/ARGUMENTS

Claims 1-21 were examined. No claims are cancelled. Claims 17, 20, and 21 are amended. Such amendments do not change the scope of the claims. Claims 22-50 are added. Examination and reconsideration of all pending claims are respectfully requested.

Examiner Interview of December 30, 2003

Applicants thank the Examiner for the kind and courteous phone interview of December 30, 2003 between Examiner Gabor, Eric Karplus, and Craig Wong. In the phone interview Applicants discussed independent claims 1, 8, 17, and 20 relative to the cited references. Applicants noted that the cited references do not describe using charge separation to determine a position of incidence of radiation. The Examiner agreed that Rougeot et al. and the other cited references did not describe or suggest using charge separation, but no explicit agreement was reached. Applicants believe that the originally filed claims are allowable over the cited references.

Information Disclosure Statement

Applicants file herewith a Supplemental Information Disclosure Statement (IDS). To date, Applicants have not received an initialed copy of the IDS filed on January 31, 2002. Applicant respectfully requests that the Examiner expressly consider and initial the newly submitted references and the references cited in the original IDS filed on January 31, 2002 and that the references appear among the "references cited" on any patent that issues.

Rejection of Claims 1, 2, 4-9, 11-14, 17, 18 under 35 U.S.C. § 102

The Examiner rejected claims 1, 2, 4-9, 11-14, 17, 18 as allegedly being anticipated by Rougeot et. al. (U.S. Patent 5,144,141). Such rejections are traversed as follows.

Original claim 1 recites an apparatus for determining the position of incidence of radiation. The apparatus comprises a solid-state device with internal gain and means for using charge separation to obtain electrical signals from said device in response to incidence of

radiation. The position of incidence of radiation is calculated using a plurality of said electrical signals. Such an apparatus is not described or suggested by the Rougeot et al.

As noted in the Examiner Interview, there is no description or suggestion in Rougeot et al. of using charge separation to calculate a position of incidence of the radiation within the solid state device. Absent such a description or suggestion in Rougeot et al, independent claim 1 and dependent claims 2-7 should be allowed.

Similarly, original independent claim 8 recites an apparatus that comprises a solid state device with internal gain. A plurality of electrically conductive structures use charge separation to obtain electrical signals from the device in response to incidence of radiation. The apparatus further includes means for calculating the position of incidence of radiation using a plurality of electrical signals. For at least the same reasons recited above, independent claim 8 and dependent claims 9-16 are also allowable.

Independent claim 17 recites a method for determining the position of incidence of radiation on a solid state device with internal gain. The method comprises arranging a plurality of electrically conductive structures with respect to the solid state device that obtain by charge separation electrical signals from said device in response to the incidence of radiation. The position of the incidence of said radiation is calculated using a plurality of said electrical signals.

As recited above and noted in the Examiner Interview, Rougeot et al. does not describe or suggest a method that uses charge separation to obtain electrical signals that indicate the position of incidence of radiation. Consequently, independent claim 17 and dependent claims 18-19 are also allowable.

If the Examiner is to uphold the rejection of claims 1-19, Applicants respectfully request that the Examiner specifically indicate in the next office action where Rougeot et al. describes each of the claimed elements.

Rejection of Claims 20, 21 Under 35 U.S.C. § 102

The Examiner rejected claims 20 and 21 as allegedly being anticipated by Rougeot et. al. (U.S. Patent 5,144,141). Such a rejection is traversed as follows.

Claim 20 provides a method of measuring the energy of incident radiation on a position sensitive solid state detector with internal gain by extracting an electrical signal from a single contact that indicates the total energy incident on said detector. The Examiner has not indicated where Rougeot et al. describe or suggest such a method. Absent such a showing, independent claim 20 is allowable.

Claim 21 further provides a method of obtaining the time of incidence from the electrical signal. The Examiner has not shown where Rougeot et al. describe or suggest such a method. Consequently, dependent claim 20 should also be allowable.

If the Examiner is to uphold the rejection of claims 20 and 21, Applicants respectfully request that the Examiner specifically indicate in the next office action where Rougeot et al. describes each of the claimed elements.

Rejection of Claims 3, 10, 15, 16, 19

The Examiner rejected claims 3, 10, 15, 16, 19 as allegedly being unpatentable over Rougeot et. al. and in further view of Iwanczyk et. al. (U.S. Patent 6,541,836). Such rejections are traversed as follows.

Claims 3, 10, 15, 16, and 19 should be allowable at least for depending from allowable independent claims 1 and 8. Additionally, the dependent claims further provide novel aspects that are not described or suggested by the cited references. For example in relation to claims 15 and 16, there is no description or suggestion in Iwanczyk et al. that the guard electrode 206 affects distortion of position information in the readout signal. Instead, as recited at column 8 lines 25-41 of Iwanczyk et al., the guard electrodes deplete the p+ region, control the potential drop between the anode 202 and the p+ anode guard electrode and focus drifting electrons into a small area round the center of anode 202. Likewise Iwanczyk et al.'s multi-ring guard structures 212 and 213 are for the purpose of preventing edge breakdown in the device (*see* column 7 lines 30-35 and 51-54). There is simply no description or suggestion of using such elements to affect geometric distortion, as is required by claims 15 and 16.

For the above reasons, Applicants submit that neither Rougeot et al. alone or in combination with Iwanczyk describe or suggest the elements of claims 3, 10, 15, 16 and 19. Therefore, claims 3, 10, 15, 16, 19 are also allowable.

Added Claims

To more fully claim the novel aspects of the present invention, Applicants have added new claims 22-50. New dependent claims 22-41 provide novel aspects not described or suggested by the cited references. Since new dependent claims 22-41 depend from allowable independent claims 1, 8, and 17, the newly added claims are also allowable.

New independent claim 42 recites an apparatus for determining the position of incidence of radiation. The apparatus comprises a solid-state device with internal gain that uses charge separation to obtain electrical signals from said device in response to incidence of radiation on said solid-state device. The position of incidence of radiation on the solid-state device is calculated using a plurality of said electrical signals. For at least the same reasons recited above, new independent claim 42 and dependent claims 43-50 are also allowable.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (508) 457-4554.

Respectfully submitted,

Eric Karplus
for Science Wares, Inc.

Gerald Entine
for Radiation Monitoring Devices, Inc.